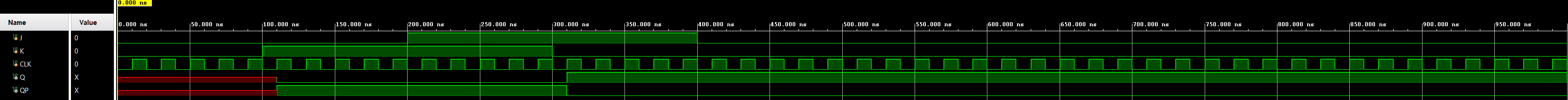
**Timing Chart**

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**Lab7.v**

`timescale 1ns */* 1ps

*module* JK\_Flip\_Flop( CLK, J, K, Q, QP );

    input CLK,J,K;

    output *reg* Q, QP;

*always* *@* ( *posedge* CLK ) *begin*

*if* ( J *==* K ) *begin*

*end*

*else* *if* ( J *==* 1 ) *begin*

            Q *<=* 1;

            QP *<=* 0;

*end*

*else* *if* ( K *==* 1 ) *begin*

            Q *<=* 0;

            QP *<=* 1;

*end*

*end*

*endmodule*

**Lab7\_tb.v**

`timescale 1ns */* 1ps

*module* Lab7\_tb();

*reg* J,K, CLK;

*wire* Q, QP;

*JK\_Flip\_Flop* jkff( CLK, J, K, Q, QP );

*initial* *begin*

        CLK *=* 1'b0;

*forever* *begin*

*#*10;

            CLK *=* *~*CLK;

*end*

*end*

*initial* *begin*

        J *=* 0; K *=* 0;

        $monitor( "simtime = %g, CLK = %b, J = %b, K = %b, Q = %b, QBAR = %b", $time, CLK, J, K, Q, QP );

*#*100; J *=* 0; K *=* 1;

        $monitor( "simtime = %g, CLK = %b, J = %b, K = %b, Q = %b, QBAR = %b", $time, CLK, J, K, Q, QP );

*#*100; J *=* 1; K *=* 1;

        $monitor( "simtime = %g, CLK = %b, J = %b, K = %b, Q = %b, QBAR = %b", $time, CLK, J, K, Q, QP );

*#*100; J *=* 1; K *=* 0;

        $monitor( "simtime = %g, CLK = %b, J = %b, K = %b, Q = %b, QBAR = %b", $time, CLK, J, K, Q, QP );

*#*100; J *=* 0; K *=* 0;

        $monitor( "simtime = %g, CLK = %b, J = %b, K = %b, Q = %b, QBAR = %b", $time, CLK, J, K, Q, QP );

*end*

*endmodule*

**TCL Console**

simtime = 0, CLK = 0, J = 0, K = 0, Q = x, QBAR = x

simtime = 10, CLK = 1, J = 0, K = 0, Q = x, QBAR = x

simtime = 20, CLK = 0, J = 0, K = 0, Q = x, QBAR = x

simtime = 30, CLK = 1, J = 0, K = 0, Q = x, QBAR = x

simtime = 40, CLK = 0, J = 0, K = 0, Q = x, QBAR = x

simtime = 50, CLK = 1, J = 0, K = 0, Q = x, QBAR = x

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